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| <div style="display: flex;"> <div style="width: 48%;"> (71) Applicant (for all designated States except US): THE SECRETARY OF STATE FOR DEFENCE [GB/GB]; Defence Evaluation and Research Agency, Ively Road, Farnborough, Hampshire GU14 0LX (GB). (72) Inventors; and (75) Inventors/Applicants (for US only): MURPHY, Melanie, Jane [GB/GB]; DERA Porton Down, Defence Evaluation and Research Agency, Salisbury, Wiltshire SP4 0JQ (GB). PRICE, Rachel, Louise [GB/GB]; DERA Porton Down, Defence Evaluation and Research Agency, Salisbury, Wiltshire SP4 0JQ (GB). SQUIRRELL, David, James [GB/GB]; DERA Porton Down, Defence Evaluation and Research Agency, Salisbury, Wiltshire SP4 0JQ (GB). (74) Agent: BOWDERY, A., O.; D/IPR, Formalities Section (DERA), Poplar 2, MOD Abbey Wood #19, Bristol BS34 8JH (GB). </div> <div style="width: 48%; padding-left: 20px;"> Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> </div> </div> | | |

(54) Title: ANTIBIOTIC SENSITIVITY TESTING**(57) Abstract**

The use of an assay for adenylate kinase in an *in vitro* test for the effect of external conditions on the growth characteristics of bacterial cells. Such tests in particular include tests for the sensitivity of a bacteria to an antibiotic or a biostatic agent, and tests to assess the growth stage and health of the bacteria. Methods of carrying out these tests and kits for effecting them are also described and claimed.

Results from a test with a lytic antibiotic

| | | | |
|-----------------|---------------------------------|-----------------|---------------------------------|
| No additions | Plus antibiotic | No additions | Plus antibiotic |
| — | + | — | — |
| Plus phage | Plus phage and antibiotic | Plus phage | Plus phage and antibiotic |
| + | + | + | + |
| SUSCEPTIBLE | | RESISTANT | |

Results from a test with a non-lytic antibiotic

| | | | |
|-----------------|---------------------------------|-----------------|---------------------------------|
| No additions | Plus antibiotic | No additions | Plus antibiotic |
| — | — | — | — |
| Plus phage | Plus phage and antibiotic | Plus phage | Plus phage and antibiotic |
| + | — | + | + |
| SUSCEPTIBLE | | RESISTANT | |